Case Report

Stability of facial soft tissue contour and bone wall at single maxillary tooth gap in early implant placement with contour augmentation: A case report

Cheng-Yi Wang1,2 and Jimmy LianPing Mau3-5*

1Department of Dentistry, China Medical University, Taiwan
2Jiaan Dental Clinic, Tainan, Taiwan
3Department of Dentistry, Chi Mei Medical Center, Chiali, Tainan, Taiwan
4Department of Periodontics, Chi Mei Medical Center, Yongkang, Tainan, Taiwan
5Department of Senior Services, Southern Taiwan University of Science and Technology, Taiwan

More Information

Address for Correspondence:
Dr. Jimmy LianPing Mau, D.D.S., MS., Department of Dentistry, Chi Mei Medical Center, Chiali, Tainan, Taiwan, Tel: +886-6-2812811; ext. 56056; Fax: +886-6-2523606; Email: lianpingmau@yahoo.com.tw

Submitted: December 08, 2020
Approved: December 22, 2020
Published: December 23, 2020


DOI: 10.29328/journal.jcad.1001022

Copyright: © 2020 Wang CY, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

OPEN ACCESS

Introduction

Early implant placement with contour augmentation using autogenous bone plus deproteinized bovine bone mineral (DBBM) has been documented to rebuild stable facial hard-tissue and soft-tissue contours that are esthetically pleasing [1-4]. For the bone substitute materials, freeze-dried bone allograft (FDBA) has been shown to achieve adequate ridge width during implant placement [5,6]. A comparative randomized study demonstrated autogenous bone plus DBBM and FDBA each combined with a collagen membrane both resulted in a stable implant buccal hard and soft tissue contour in early implant placement with contour augmentation after 1 year [7]. This case report showed stable implant buccal hard and soft tissue contour in early implant placement with contour augmentation using FDBA after 6 years loading.

Case report

A 32 years old non-smoking female who denied any systemic disease or drug allergies complaint of biting pain on maxillary anterior region. Clinical examination showed no obvious gingival inflammation and normal probing depth without bleeding on probing. Periapical radiograph showed incomplete PDL lining and radiolucent shadow on tooth 21 root surface, however, a bone sounding examination indicated that buccal crest remained intact. The clinical was diagnosed tooth 21 external root resorption (Figure 1a-c).

Tooth 21 extracted by less traumatic approach using periotome separate circumferential PDL then extract tooth with forcep (Figure 1d). After 8 weeks of healing, a full thickness flap with single vertical release from maxillary canine to canine. Ridge preparation following implant drilling protocol and 4.1 mm x 10 mm Straumann Bone Level implant was placed in ideal 3D position, and cover screw was placed. Freeze-Dried Bone Allograft was placed on top of implant bony defect to augment the buccal contour, then covered with two layers of collagen membrane, primary wound closure was then performed. Wound healing uneventfully during 2-week suture removal (Figure 1e-k).

3-month after implant placement, a small U-shaped flap was performed on top of implant, cover screw was removed, impression was taken at the same time then healing abutment was placed. Two weeks later, implant provisional was performed for implant soft tissue modeling (Figure 1l-o). Three months after tissue modeling, definitive prosthesis was delivery. Clinical showed stable implant buccal hard and soft tissue contour after 1-year implant loading (Figure 1p,q). Computed tomography also showed stable buccal wall (Figure 1r-t). After 6-year follow up, clinical implant buccal hard and soft tissue contour still remain stable (Figure 1u,v).

Summary

Stability of esthetic implant buccal soft and hard tissue contour using freeze-dried bone allograft in early implant placement with contour augmentation.
Stability of facial soft tissue contour and bone wall at single maxillary tooth gap in early implant placement with contour augmentation: A case report

Conclusion

Early implant placement with contour augmentation using FDBA may rebuild stable implant buccal hard and soft tissue contour in long term result.

References


